EPM Solution for Split Phase System

Revision History

- Version 1.0- July 2023

1. Background

This document introduces Solis EPM solution for split phase system and help user understand its installation and settings.

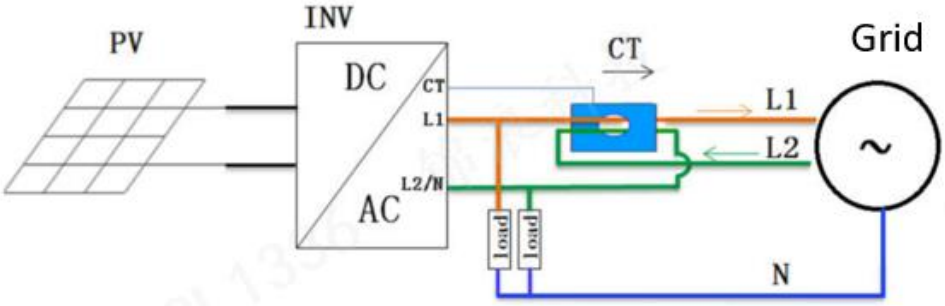
2. Single Inverter Connection

When there is only one inverter installed onsite ,please use a current sensor to achieve the export control function.

2.1 Component

Specification: 100a:33.33ma

2.2. System Diagram



2.3 Settings:

CT Sampling Rate Set

The default setting of CT ratio will be 3000:1, in split phase application, please change the CT sampling rate to 1500:1

Advance settings ->password 0010->Export Power Set -> Model Select->Current Sensor-> CT sampling ratio

Backflow Power Set

Set the backflow power according to local grid regulations, if it is 0 export system, set the backflow power to 000000W.

Advance settings ->password 0010->Export Power Set -> Backflow power->

3 EPM solution for multiple Inverters connection

When there are multiple inverters installed onsite , EPM3-5G-PRO is going to be applied to achieve the export control function.

3.1 Components

Model：EPM3-5G-PRO

Grid Type: L1-L2 220V/240V .L1-N 110V/220V, L2-N 110V/220V split phase

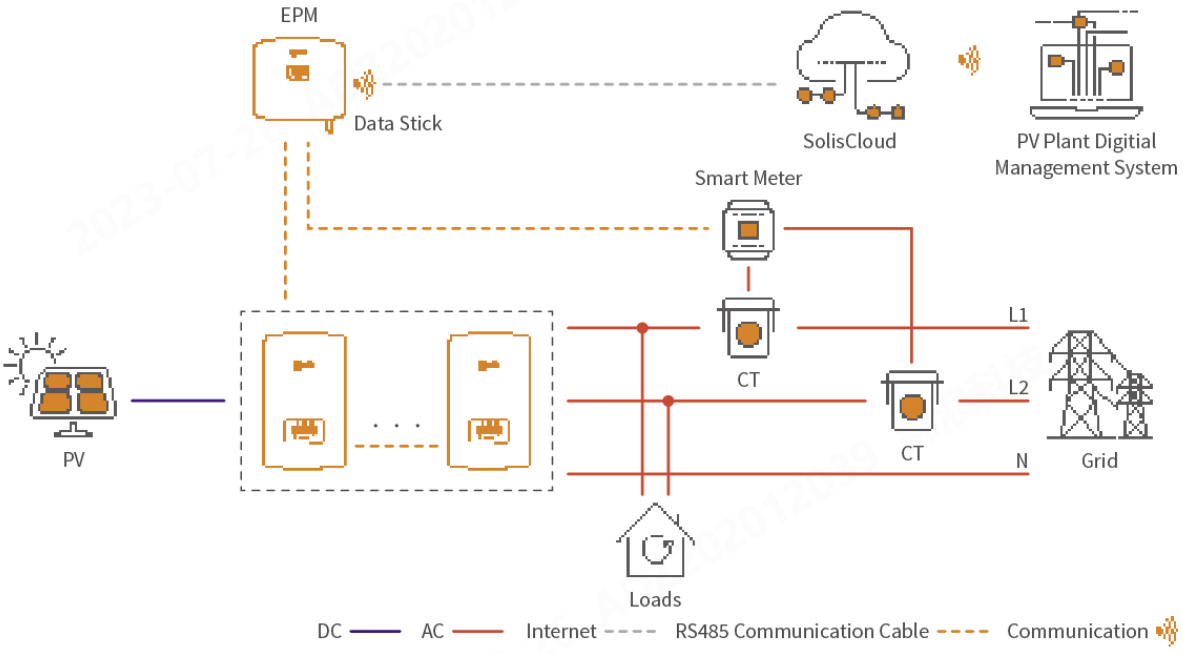
Model：AGF-AE-D(With 2 CTs）

Single phase 208V/240V

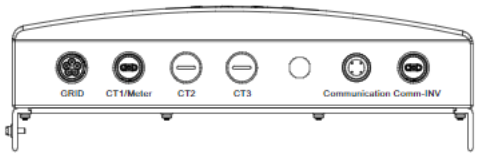
CT specifications：200A:40ma

3.2 Installation

3.2.1 System diagram



3.2.2. Connectors Interface



Grid port ->AC connection ,AC power of the EPM

CT1/Meter ->Meter port , connect to the RS485 communication of the meter to read and display the power, voltage, and current data on the grid side.

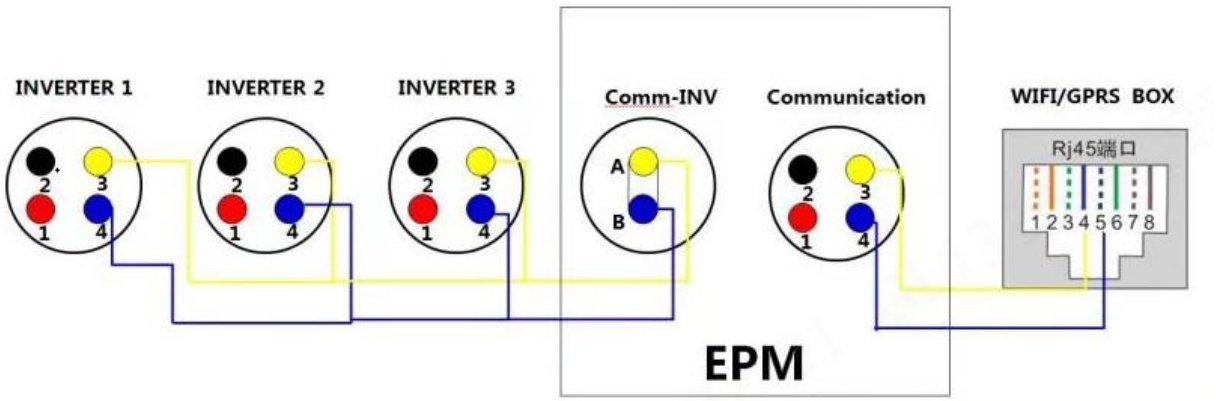
Communication port -> For data logger connection , for monitoring

Comm-INV -> for inverter RS485 connection

3.2.3 Connect inverter with EPM

If there is only one com port connector on the inverter, please find ‘RS485 cable connectors’ in the EPM accessory bag to form a communication between EPM and inverters.

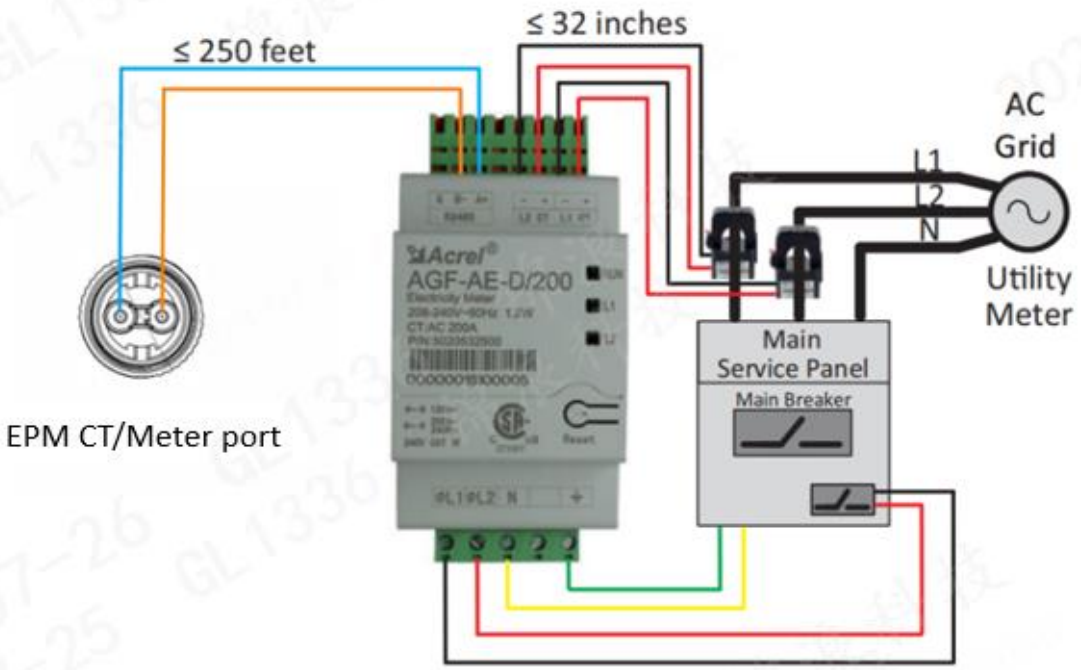
RS485 cable x5
(Inverter RS485 terminal x5 pcs)



3.2.4 Meter Installation

Connect the RS485 A+ B- on meter terminal correspondingly to the 2pin meter port of the EPM, and connect the CT to the meter as illustrated below.

Note: Install the CT with the arrow pointing to the grid for consumption or export measurement.



3.2.5 EPM Settings

After installation, steps below should be taken to enable the export power control function:

Step 1: Follow the path to find "External EPM" on inverter LCD screen.

Advanced Settings -> Password: 0010 -> External EPM Set.

Complete the settings on the EPM

Step 2: Define how many inverters in this project

Advance settings->0010->Inverter Qty Set

Step 3 : Set a value of how much power is allowed for your system to export to the grid

Advance settings->0010->Back flow power

Step 4: Set a CT ratio for the current transformer

Advance settings-> 0010->CT Ratio——5000:1

Step 5: Select correct Meter type

Advance settings-> 0010->Meter Choose-> Split phase->AGF-AE-D/200

Step 6: Find "Failsafe ON/OFF", make sure it is ON (Default is ON)

Advanced Settings -> Password: 0010 -> Internal EPM Set-> Failsafe ON/OFF

Step 7: Set backflow work mode to define the limitation mode required

Advance Settings-> Backflow work mode ->mode 01

Mode01: The average limiting mode

Mode 02:The per phase limiting mode